

REMARKS

The Office Action notes claims 55-94 are pending in the application. Claims 56, 79, 86, and 91, and 95-98 are hereby cancelled and claims 99-106 are added. No new matter has been added.

Claims 55-65 and 79-94 stand rejected under 35 U.S.C. §102(b) as being anticipated by, or, in the alternative, under 35 U.S.C. §103(a) as being unpatentable by Shreve, U.S. Patent No. 4,717,643.

In presenting the rejection, the Examiner says “As Scheve et al. removes the residual isocyanate, after addition of the alcohol, it is not seen how the claimed product differs from the product disclosed by the reference.”

Further, the intermediate product obtained is treated with alcohol in the absence of the isocyanate. Thus, the acid anhydride group produced on the principal chain is efficiently decomposed by esterification. Therefore, the amount of the acid anhydride group in the highly stable polymer is significantly small.

In response, the highly stable polymer recited in the claims is obtained “by reacting a polymer with an isocyanate compound until the isocyanate group, as measured by an IR absorption spectrum at a peak of $2,200\text{ cm}^{-1}$ is no longer present, and then reacting the same with an alcohol.” The amount of isocyanate compound used is approximately equal to the amount consumed in the reaction process. Thus, the amount of acid anhydride group produced on a principal chain of the polymer is much less than if the isocyanate compound is used in excess.

Further, Scheve et al. removes a residual IEA in a reaction system by HPMA (a compound having a hydroxyl group). Since in Scheve et al., HPMA is mainly consumed in order to remove the residual IEA, the acid anhydride group produced on the principal chain of

the polymer is not decomposed, or the decomposition is not efficient even if the acid anhydride group is decomposed.

Therefore the polymer disclosed in Scheve et al. contains the acid anhydride group in large quantity in comparison to the highly stable polymer of the present invention, and is therefore inferior in stability.

In contrast, Scheve et al. discloses using an excessive amount of an isocyanate compound with respect to a back bone polymer. (Col. 4, lines 11-32). The excessive amount of IEA (isocyanate compound) reacts with respect to the backbone polymer and a large quantity of an acid anhydride group is produced on a principal chain of a polymer.

As described herein, the polymer disclosed in Scheve et al. is clearly distinct from the highly stable polymer of the present invention.

Respectfully Submitted,

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